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HOMEMAKERS' CHAT

SATURDAY, August 12, 1939

(FOR BROADCAST USE ONLY)

Subject: "HOME COMFORT IN HOT WEATHER," Information from the Bureau of Agricultural Chemistry and Engineering, and the Office of Experiment Stations, United States Department of Agriculture,

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Everyone wants a comfortable place to live. And the first step toward home comfort is a house that is cool in summer and warm in winter.

So everyone should be interested to hear that engineers and architects of the U. S. Department of Agriculture and the Wisconsin and Georgia State Experiment Stations have been working together to find out what makes farmhouses comfortable. These men recorded the temperature of the air, walls, floors, and ceilings of a number of typical farm homes up North and down South. They also kept records of the humidity, or moisture of the air inside these houses. (The amount of moisture in the air has much to do with comfort.) And they measured the movement of the air in the houses--what you may think of as "refreshing ventilation" in summer and "chilly draughts" in winter. On the whole, the study showed that most farm houses today aren't built so that they can be comfortable the year around.

For example, take the houses in the South where summers are long and hot, where keeping cool is a problem. The typical farmhouse in this part of the country is a one-story, wood-frame building. If it is loosely built so that some air can pass through the walls and the roof, it is cooler and more comfortable in hot weather than more tightly built houses. The air inside such a house is cooler during the day, and the walls and roof cool off faster at night because of the air passing through. But, unfortunately, these loosely constructed houses are very uncomfortable in winter and expensive to heat besides. Because so much air comes in, the rooms are not evenly warm.

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The floors are cold. Your head may be warm enough while your feet are freezing because of the cold air along the floor. You may be surprised to know that the investigators found Wisconsin farmhouses, even in zero weather, more comfortable than Georgia houses in winter. The reason is that northern farmhouses are generally more tightly built and better insulated.

What about insulating walls and ceiling and roof for summer comfort? Doesn't insulation make houses cooler?

Yes, if the house has ample ventilation. During the day insulation does keep out much of the outdoor heat, but at night it makes houses warmer unless plenty of large windows and doors let the air come through to cool it. Well-insulated houses hold in the daytime heat along with the heat of cooking and ironing. And well-insulated tight walls and ceilings cool off slowly.

If all farmhouses could be mechanically cooled in summer, they could be tightly built and well-insulated for both summer and winter comfort. But mechanical cooling is too expensive for most families.

So the men who made this study are investigating other less expensive ways to make farmhouses comfortable in hot weather. They suggest that one way is to provide better ventilation just under the roof--more circulation of air in the stud or attic spaces. So they are investigating larger gable ventilators, ridge and cupola-type ventilators, and exhaust fans for attics. For flat-roofed houses a device for keeping the roof covered with water may possibly be found a simple means of comfort in summer. It has been tried on factories. To keep walls cool, it may be possible to build ventilators at the base and top of walls which can be shut off in winter.

Of course, long experience has taught us some other ways of keeping houses cool in summer. One way is to let nature help--to make use of trees, shrubbery, and vines to shield the house from the hot rays of the sun and even aid in cooling

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the walls. As long as foliage doesn't cut off the circulation of air from doors and windows, it is very helpful in making the house comfortable.

Long experience has proved, too, that awnings, shutters, Venetian blinds, and shades as well as porches and overhanging eaves help keep the heat of the sun from beating into windows and doors.

But there's one old idea that hasn't proved true in this study. That's the idea that rooms with high ceilings are always cooler than those with low ceilings. The investigators did not find that rooms with 10-foot ceilings in loosely constructed houses were any more comfortable than those with 8-foot ceilings.

The investigators say they have much to learn yet about how to build a house for summer comfort. But they are sure already that plenty of air circulating just under the roof is a big help, and that all methods of screening the house from the sun without cutting off the circulation of air can be used to advantage.

Some day in the fall I'll tell you what they've learned about building farm homes for cold weather comfort.

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